

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants Jonathan S. Stamler and Alfred Hausladen

Application No.: 09/756,478

Group Art Unit: 1645

Filed: January 8, 2001

Examiner: Not assigned

Title: THERAPIES USING HEMOPROTEINS

| CERTIFICATE OF MAILING | |
|---|---------------|
| I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231 | |
| on | <i>8/1/01</i> |
| Date | Signature |
| Kathleen M. Bastarache | |
| Typed or printed name of person signing certificate | |

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

Sir:

This Information Disclosure Statement is submitted:

☐ under 37 CFR 1.129(a), or
(First/Second submission after Final Rejection)

☒ under 37 CFR 1.97(b), or
(Within any one of the following time periods: three months of filing national application (other than a CPA) or date of entry of the national stage in an international application, or before the mailing date of a first office action on the merits in a non-provisional application, including a CPA, or a Request for Continued Examination).

☐ under 37 CFR 1.97(c) together with either:
☐ a Statement under 37 CFR 1.97(e), as checked below, or
☐ a \$180.00 fee under 37 CFR 1.17(p), or
(After the 37 CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)

☐ under 37 CFR 1.97(d) together with:
☐ a Statement under 37 CFR 1.97(e), as checked below, and
☐ a \$180.00 fee under 37 CFR 1.17(p), or
(Filed after final action or notice of allowance, whichever occurs first, but on or before payment of the issue fee)

☐ under 37 CFR 1.97(i):
Applicant requests that the IDS and cited reference(s) be placed in the application filewrapper.
(Filed after payment of issue fee)

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#5
Jm
8/14/01

Statement Under 37 CFR 1.97(c)

- ☐ Each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- ☐ No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

Statement Under 37 CFR 1.704(d) (Patent Term Adjustment)

Applies to original applications (other than design) filed on or after May 29, 2000

- ☐ Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.
- ☒ Enclosed herewith is form PTO-1449:
 - ☒ Copies of the cited references (AA, AL, AR-AS2) are enclosed.
 - ☐ Copies of cited references are enclosed except those entered in prior application, U.S. Application No. [], to which priority under 35 U.S.C. 120 is claimed. [The earlier application contains copies of the cited references.]
 - ☐ The listed references were cited in the enclosed International Search Report in a counterpart foreign application.
 - ☐ The "concise explanation" requirement (non-English references) for reference(s) [] under 37 CFR 1.98(a)(3) is satisfied by:
 - ☐ the explanation provided on the attached sheet.
 - ☐ the explanation provided in the Specification.
 - ☐ submission of the enclosed International Search Report.
 - ☐ the enclosed English language abstract.

☐ Applicant requests that the following non-published pending applications be considered:

Examiner's
Initials

_____ U.S. Patent Application No. [], by [inventor(s)], filed [], Docket No.: []

_____ U.S. Patent Application No. [], by [inventor(s)], filed [], Docket No.: []

_____ U.S. Patent Application No. [], by [inventor(s)], filed [], Docket No.: []

Examiner

Date

- ☐ A copy of each above-cited application, including the current claims, is enclosed.
- ☐ A copy of each above-cited application, including the current claims, is enclosed, except those entered in prior application, U.S. Application No. [], to which priority under 35 U.S.C. 120 is claimed.

The Examiner is requested to return a copy of the above list of pending applications indicating which references were considered with the next office communication.

It is requested that the information disclosed herein be made of record in this application.

Method of payment:

- ☐ A check for the fee noted above is enclosed, or the fee has been included in the check with the accompanying Reply. A copy of this Statement is enclosed.
- ☐ Please charge Deposit Account 08-0380 in the amount of \$[]. A copy of this Statement is enclosed.
- ☒ Please charge any deficiency in fees and credit any overpayment to Deposit Account 08-0380.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By

Carol A. Egner

Carol A. Egner

Registration No.: 38,866

Telephone: (781) 861-6240

Facsimile: (781) 861-9540

Lexington, Massachusetts 02421-4799

Dated: *August 7, 2001*

PT. 1449 REPRODUCED

ATTORNEY DOCKET NO.

APPLICATION NO.

1818.1026-006

09/756,478

INFORMATION DISCLOSURE CITATION
IN APPLICATION

August 2, 2001

(Use several sheets if necessary)

APPLICANT

Jonathan S. Stamler et al.

FILING DATE

January 8, 2001

GROUP

1645

U.S. PATENT DOCUMENTS

| EXAM- INER INI- TIAL | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUB- CLASS | FILING DATE IF APPROPRIATE |
|-------------------------------|----|-----------------|-----------|-------------|-------|---------------|----------------------------------|
| | AA | 5,449,688 | 12-SEP-95 | Wahl et al. | 514 | 546 | 30-MAR-93 |
| | AB | | | | | | |
| | AC | | | | | | |
| | AD | | | | | | |
| | AE | | | | | | |
| | AF | | | | | | |
| | AG | | | | | | |
| | AH | | | | | | |
| | AI | | | | | | |
| | AJ | | | | | | |
| | AK | | | | | | |

FOREIGN PATENT DOCUMENTS

| | | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUB- CLASS | TRANSLATION YES NO |
|--|----|-----------------|-----------|---------|-------|---------------|-----------------------|
| | AL | WO 98/08653 | 12-MAR-98 | PCT | | | |
| | AM | | | | | | |
| | AN | | | | | | |
| | AO | | | | | | |
| | AP | | | | | | |
| | AQ | | | | | | |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

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|--|----|--|
| | AR | Chinje, E. and Stratford, I. "Role of nitric oxide in growth of solid tumors: a balancing act," <i>Essays Biochem.</i> , 32:61-72 (1997) |
| | AS | Crawford, M. and Goldberg, D. "Role for the <i>Salmonella</i> Flavohemoglobin in Protection from Nitric Oxide," <i>J. Biol. Chem.</i> , 273:12543-12547 (1998) |
| | AT | Gardner, P. et al., "Nitric oxide dioxygenase: An enzymic function for flavohemoglobin," <i>Proc. Natl. Acad. Sci. USA</i> , 95:10378-10383 (1998) |

EXAMINER

DATE CONSIDERED

| | | | |
|---|---|--------------------------------------|-------------------------------|
| INFORMATION DISCLOSURE CITATION IN AN APPLICATION August 2, 2001 (Use several sheets if necessary) | | ATTORNEY DOCKET NO. 1818.1026-006 | APPLICATION NO. 09/756,478 |
| APPLICANT Jonathan S. Stamler et al. | | FILING DATE January 8, 2001 | GROUP 1645 |
| U.S. PATENT DOCUMENTS | | | |
| EXAMINER INITIAL | DOCUMENT NUMBER | DATE | NAME |
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| FOREIGN PATENT DOCUMENTS | | | |
| | DOCUMENT NUMBER | DATE | COUNTRY |
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| AU | Hausladen, A. et al., "Nitrosative stress: Metabolic pathway involving flavohemoglobin," <i>Proc. Natl. Acad. Sci. USA</i> , 95:14100-14105 (1998) | | |
| AV | Kloek, A. et al., "The Tyrosine B10 Hydroxyl Is Crucial for Oxygen Avidity of Ascaris Hemoglobin," <i>Journ. Biol. Chem.</i> , 269:2377-2379 (1994) | | |
| AW | Membrillo-Hernández, J. et al., "The flavohaemoglobin (HMP) of <i>Escherichia coli</i> generates superoxide in vitro and causes oxidative stress in vivo," <i>FEBS</i> , 32:141-144 (1996) | | |
| AX | Poole, Robert. "Oxygen reactions with bacterial oxidases and globins: binding, reduction and regulation," <i>Antonie Leeuwenhoek</i> , 65:289-310 (1994) | | |
| AY | Poole, Robert, et al., "Reactions of the <i>Escherichia coli</i> flavohaemoglobin (Hmp) with oxygen and reduced nicotinamide adenine dinucleotide: evidence for oxygen switching of flavin oxidoreduction and a mechanism for oxygen sensing", <i>Proc. R. Soc. Lond.</i> , 255:251-258 (1994). | | |
| AZ | Thomsen, L.L., et al., "Role of nitric oxide in tumour progression: Lessons from human tumours", <i>Cancer and Metastasis Reviews</i> , 17:107-118 (1998). | | |
| AR2 | Tozer, G.M., et al., "Nitric Oxide in Tumour Biology and Cancer Therapy. Part 2: Therapeutic Implications", <i>Clinical Oncology</i> , 9:357-364 (1997). | | |
| AS2 | Wennmalm, A., et al., "Dependence of the metabolism of nitric oxide (NO) in healthy human whole blood on the oxygenation of its red cell haemoglobin", <i>Br. J. Pharmacol.</i> , 106:507-508 (1992). | | |
| EXAMINER | | DATE CONSIDERED | |